mans have shown that during CPR the left heart functions more as a passive conduit than as a pump. Implicit in the "chest pump" hypothesis for blood flow is that manipulations that increase intrathoracic pressure during CPR increase left heart outflow.

Regional perfusion studies using radiolabeled microspheres have shown a significant improvement in cerebral flow when simultaneous chest compression and lung inflation are used during CPR. However, simultaneous chest compression and lung inflation do not improve myocardial perfusion. In fact, coronary flow using conventional or newer methods of CPR averages only 1 percent to 3 percent of control flow!

Complications of newer CPR techniques in studies using animals appear to be minimal. Barotrauma from high airway pressures is infrequently noted and ventilation is more than adequate (provided a patient is intubated and positive pressure is used). The efficacy and safety of simultaneous chest compression and lung inflation in improving survival for victims of sudden death is being assessed in a Miami field study.

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Compelling Treatment After Suicide Attempts

A LARGE PROPORTION of the poisonings seen in emergency departments are actually the result of suicide attempts or suicide gestures. Patients frequently ingest a potentially lethal dose of a drug and then call for help. This seemingly paradoxical behavior may continue in the emergency department when the patient readily admits to a drug ingestion but refuses treatment. The attending physician is presented with an apparent legal and ethical dilemma: a patient who needs help yet refuses therapy.

The fundamental legal principle that people have the right to make major decisions about their bodies has long been recognized by the courts. In a 1914 decision Cardozo noted, "Every human being of adult years and sound mind has a right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient's consent commits an assault for which he is liable in damages."

Some authors cite the 1960 case of *Natanson v Kline* as the first suit in the modern era of malpractice of a physician who failed to receive informed consent for treatment. During the 20 years since *Natanson,* the doctrine of informed consent has had a rapid evolution. Clearly a competent adult has a legal right to refuse treatment. Numerous cases show that this right extends to the refusal of potentially lifesaving therapy, except when another person or the state has a compelling interest in the patient's continued life. Legislation to permit persons to direct the conditions for their own terminal care has become commonplace, with nearly 100 different acts proposed or enacted in the United States by 1978.

Patients' rights notwithstanding, a drug overdose patient must be treated in an emergency department. Suicide has been defined as the intentional, voluntary, nonaccidental taking of one's own life. Where it has been shown that a person's refusal to submit to medical treatment is likely to result in death, which death may be classified as a suicide, the state may compel treatment. It has been argued that accepting a patient's refusal of treatment for a suicide attempt may be aiding in the suicide, thus leaving a physician criminally liable. The Lanterman-Petris-Short Act directs that any person who "is a danger to others or to himself, or gravely disabled" shall be placed in an approved "facility for 72-hour treatment and evaluation." Under the act, " 'Intensive treatment' consists of such hospital and other services as may be indicated."

We advise emergency physicians to obtain a signed informed consent when possible. However, all conditions that are an immediate threat to life or limb should be treated regardless of ability to obtain consent. This includes treating potentially life-threatening poisonings and overdoses. A psychiatric evaluation is a mandatory part of emergency treatment of drug overdose. The evaluation should be done as early as medically possible, and certainly before a patient is permitted to leave the emergency department. After a patient is in a stable condition and out of immediate danger from a delay in treatment, the physician should contact a probate court for directions on further, less urgent therapy.

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Overdose Update—Antidotes

SPECIFIC ANTIDOTES are unnecessary in almost all cases of overdose, but can be lifesaving in a few selected instances. A number of recently described or experimentally promising antidotes deserve mention.

Treatment with the oral administration of acetylcysteine in the United States, or intravenously given acetylcysteine and orally given methionine in Great Britain, has been shown to greatly diminish the incidence of significant hepatic necrosis following acetaminophen overdose. Effects on renal toxicity are not known. Patients found to have blood concentrations suggesting possible toxicity on standard acetaminophen nomography studies (which must be evaluated with regard to amount of time following drug ingestion) should be begun on a standard protocol of 18 doses of acetylcysteine.

Alkalinization of the serum to a pH of 7.50 to 7.55